

KENTUCKY TRANSPORTATION CENTER

College of Engineering

HIGHWAY CRASH SITE MANAGEMENT





Our Mission

We provide services to the transportation community through research, technology transfer and education. We create and participate in partnerships to promote safe and effective transportation systems.

We Value...

Teamwork -- Listening and Communicating, Along with Courtesy and Respect for Others
Honesty and Ethical Behavior
Delivering the Highest Quality Products and Services
Continuous Improvement in All That We Do

For more information or a complete publication list, contact us

KENTUCKY TRANSPORTATION CENTER

176 Raymond Building
University of Kentucky
Lexington, Kentucky 40506-0281

(859) 257-4513
(859) 257-1815 (FAX)
1-800-432-0719
www.ktc.uky.edu
ktc@engr.uky.edu

Research Report
KTC-03-18/KH43-02-1F

HIGHWAY CRASH SITE MANAGEMENT

by

Monica L. Barrett
Jennifer R. Walton

Kentucky Transportation Center
University of Kentucky
Lexington, Kentucky

in cooperation with

Kentucky Transportation Cabinet
Commonwealth of Kentucky

The contents of this report reflect the views of the authors who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the University of Kentucky or the Kentucky Transportation Cabinet. This report does not constitute a standard, specification, or regulation. The inclusion of manufacturer names and trade names is for identification purposes and is not to be considered an endorsement.

July 2003

1. Report Number KTC-03-18/KH43-02-1F	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle HIGHWAY CRASH SITE MANAGEMENT		5. Report Date July 2003	
		6. Performing Organization Code	
7. Author(s) Monica L. Barrett, Jennifer R. Walton		8. Performing Organization Report No. KTC-03-18/KH43-02-1F	
9. Performing Organization Name and Address Kentucky Transportation Center College of Engineering University of Kentucky Lexington, Kentucky 40506-0281		10. Work Unit No.	
		11. Contract or Grant No. KHIT-43-02	
12. Sponsoring Agency Name and Address Kentucky Transportation Cabinet State Office Building Frankfort, Kentucky 40602		13. Type of Report and Period Covered Final	
		14. Sponsoring Agency Code	
15. Supplementary Notes Prepared in cooperation with the Kentucky Transportation Cabinet and the Federal Highway Administration			
<p>16. Abstract</p> <p>Traveler delay is the problem most often associated with highway crashes, but by far the most serious problem is the resulting secondary crashes that occur. Another related issue is the danger posed to response personnel serving the public at the scene of a crash. The longer a crash is in place, the longer the responders are vulnerable and exposed to injury.</p> <p>The Kentucky Transportation Center, in cooperation with the Kentucky Transportation Cabinet, developed a checklist and interagency workshop to address ways to secure and coordinate the resources necessary to restore the roadway's operation in a safe and timely manner. The Highway Crash Site Management workshop and Checklist have been a very effective way to get the message of quick clearance to emergency responders.</p> <p>During the past fiscal year (2002-2003), emphasis was placed on conducting more workshops and distributing more Checklists. Six additional workshops were conducted and 1000 Checklists were printed for distribution. In addition, minor modifications were made to the workshop material and delivery process. A packet of information pertaining to the project was distributed nationally as a way to share Kentucky's "successful practices", and an evaluation survey was conducted to determine the benefits of the workshop and Checklist.</p> <p>It is the finding of this study that emergency responders are receptive to this program and that conducting more workshops and distributing more Checklists would improve crash site management throughout the state. Minor modifications should be made to the workshop in an effort to make the program more sustainable, and the management and organization should gradually be turned over to the Technology Transfer section of the Kentucky Transportation Center.</p>			
17. Key Words Crash Site Management Incident Crashes Incident Management Clearance Checklist Emergency Response Accidents Safety		18. Distribution Statement Unlimited, with approval of the Kentucky Transportation Cabinet	
19. Security Classification (report) Unclassified	20. Security Classification (this page) Unclassified	21. No. of Pages 32	22. Price

TABLE OF CONTENTS

List of Tables	iii
List of Figures	v
Executive Summary	vii
Acknowledgments.....	ix
1.0 Introduction and Background	1
1.1 Introduction.....	1
1.2 Background	1
1.3 Research Study Objectives.....	2
1.4 Work Plan	2
2.0 Improvements to the Workshop	3
3.0 Reprint of the Checklist	4
4.0 National Distribution of the Checklist and Report	4
5.0 Additional Workshops	5
6.0 Evaluation Survey.....	6
7.0 Recommendations	16
Appendix A – Evaluation Survey Form.....	17

LIST OF TABLES

Table 1. List of People with Interest in Becoming a Trainer	11
Table 2. Mean Ranking for Components of the Checklist.....	13

LIST OF FIGURES

Figure 1. HCSM Workshop Locations	5
Figure 2. Survey Respondents by Type of Agency	6
Figure 3. Survey Respondents by Type of Work Performed	7
Figure 4. Survey Respondents by Work Experience	7
Figure 5. Survey Respondents by Workshop Location	8
Figure 6. Overall Rating for Interagency Coordination.....	8
Figure 7. Rating for Interagency Coordination by Workshop Location.....	9
Figure 8. Has Interagency Coordination Improved Since the Workshop?	9
Figure 9. Would it be Beneficial to Repeat the Workshop?	10
Figure 10. Would it be Beneficial to Repeat the Workshop? (By Location)	10
Figure 11. Breakdown of Use of the Checklist	12
Figure 12. Using the Checklist for Crash Site Management (By Years of Experience)	12
Figure 13. Rating the Checklist by Frequency of Use	13
Figure 14. Has Safety Been Improved?	14
Figure 15. Has Time On-Scene Been Reduced?	15

EXECUTIVE SUMMARY

Traveler delay is the problem most often associated with highway crashes, but by far the most serious problem is the resulting secondary crashes that occur. Another related issue is the danger posed to response personnel serving the public at the scene of a crash. The longer a crash is in place, the longer the responders are vulnerable and exposed to injury.

The Kentucky Transportation Center, in cooperation with the Kentucky Transportation Cabinet, developed a checklist and interagency workshop to address ways to secure and coordinate the resources necessary to restore the roadway's operation in a safe and timely manner. The Highway Crash Site Management workshop and Checklist have been a very effective way to get the message of quick clearance to emergency responders.

During the past fiscal year (2002-2003), emphasis was placed on conducting more workshops and distributing more Checklists. Six additional workshops were conducted and 1000 Checklists were printed for distribution. In addition, minor modifications were made to the workshop material and delivery process. A packet of information pertaining to the project was distributed nationally as a way to share Kentucky's "successful practices", and an evaluation survey was conducted to determine the benefits of the workshop and Checklist.

It is the finding of this study that emergency responders are receptive to this program and that conducting more workshops and distributing more Checklists would improve crash site management throughout the state. Minor modifications should be made to the workshop in an effort to make the program more sustainable, and the management and organization should gradually be turned over to the Technology Transfer section of the Kentucky Transportation Center.

ACKNOWLEDGMENTS

An expression of appreciation is extended to the following participants in the project for their extensive involvement towards the success of this project.

John Crossfield
Sergeant Neil Gilreath
John Nevin
Tim Schoch
Lieutenant Colonel Albert Tronzo

Kentucky Transportation Cabinet
Covington Police Department
TRIMARC, Northrop Grumman
ARTIMIS, Northrop Grumman
Louisville Fire Department

In addition, efforts by representatives of the agencies responding to the mail survey are acknowledged and appreciated.

1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

Delays associated with crashes on Kentucky's highways are a major inconvenience and burden on the driving public. When there is a crash that disrupts traffic, the adverse effects are widespread. These effects include:

- increased response time by emergency personnel
- lost time/reduced productivity
- increased cost of goods and services
- increased fuel consumption
- reduced air quality
- increased vehicle maintenance costs
- reduced quality of life
- negative public image of the agencies involved in crash management activities

Traveler delay is the problem most often associated with highway crashes, but by far the most serious problem is the resulting secondary crashes that occur. It is not unusual for the secondary crash to be more severe than the original crash. Another related issue is the danger posed to response personnel serving the public at the scene of a crash. The longer a crash is in place, the longer the responders are vulnerable and exposed to injury.

The magnitude of these problems is severe. Crashes critically limit the operational efficiency of our roadways and put the traveling public at risk. A systematic, coordinated plan for managing the scene is needed to reduce the impact of highway crashes and improve the safety of motorists, crash victims, and emergency response personnel.

1.2 Background

The Kentucky Transportation Center (KTC), in cooperation with the Kentucky Transportation Cabinet (KYTC), developed a checklist and interagency workshop to address ways to secure and coordinate the resources necessary to restore the roadway's operation in a safe and timely manner. This Highway Crash Site Management (HCSM) Checklist and workshop serve as a reminder to responding agencies of the activities that need to be performed and who needs to perform them. A highway crash scenario activity is part of the workshop and helps all the agencies involved at a crash scene to gain a better understanding of each other's roles.

The workshop and Checklist have been a very effective way to get the message of quick clearance to emergency responders. Since the development of the material, eleven workshops in Kentucky and one in Indiana have been conducted and over 1,200 Checklists have been distributed to emergency responders from all disciplines.

Both the Checklist and the workshop have received favorable comments from those attending. Several individuals have requested additional workshops be provided in order for other members of their agency to attend. Interagency training is unusual among emergency response personnel, but necessary when dealing with highway crash site management. By providing this training, it allows responders to understand the importance of good communication and learn and respect the roles of other agencies in order to work better as a team at a crash scene.

1.3 Study Objectives

The primary objective of this study was to improve safety and reduce congestion on Kentucky's highways by helping emergency response personnel better manage and clear highway crashes through the distribution of more Checklists and the presentation of additional workshops. Secondary objectives of the study were to: 1) evaluate the usefulness and effectiveness of the workshop and Checklist by contacting and surveying those Kentucky emergency responders who had attended the workshop and received the Checklist; and 2) share the methods and materials used as part of this project with others by distributing this material nationally to every state's Department of Transportation and as requested by others as part of a "Successful Practices in Kentucky" effort.

1.4 Work Plan

To achieve the objectives of this study, a work plan was developed. This work plan included the following tasks:

- Make Improvements to the Workshop - The trainers will meet to review and discuss the workshop material. Minor modifications will be made as necessary to improve the delivery of the workshop.
- Reprint the Checklist – One thousand copies of the Checklist will be produced for distribution. Additional detour maps will be produced and printed for the Checklist as needed.
- Distribute the Checklist and Report – The Checklist and an electronic copy of the KTC Report (KTC-01-27/SPR199-98-1F) and addendum memo, which describes the development of the Checklist and workshop, will be distributed to every state and as requested by others.
- Conduct Workshops – Six additional workshops will be conducted in different regions of the state. KTC will work with the Area Development District or other interested agencies in the region to plan the workshop and encourage local participation.
- Conduct an Evaluation Survey – A follow-up survey will be developed and distributed to those who have attended the workshop and received the Checklist. The objective of this survey will be to determine the usefulness of the Checklist and workshop. Those taking

the survey will be asked questions like what information from the workshop has been the most useful and how frequently have they referred to the Checklist. The results of the survey will be documented and provided to the Kentucky Transportation Cabinet.

Sections 2.0 through 6.0 of this report describe these tasks in greater detail.

2.0 IMPROVEMENTS TO THE WORKSHOP

Most of the changes made to the workshop were implemented prior to the first workshop (in August 2002) and were based upon input from previous workshop surveys and the trainer's recommendations. Some of the more significant changes are discussed in the paragraphs below.

The workshop material was reviewed by all the trainers and updated and revised as necessary. Many of these changes were made under the "Practical Solutions" section of the workshop material and included adding information on terrorism, photogrammetry, and traffic control.

In addition, two trainers were added to the staff. Lt. Colonel Albert Tronzo, with the Louisville Fire Department, brought more diversity to the pool of trainers with his fire and rescue background. John Nevin, with TRIMARC, the greater Louisville/Southern Indiana traffic management center, was also added to the list of trainers and served as a back-up when needed.

Another suggestion was to add a local case study to the workshop material. The desire was to present a local example of crash site management that the participants could critique by pointing out areas where improvement was needed or where they did a particularly good job. The actual process of presenting a local case study proved to be a little more difficult than originally anticipated. In rural areas, the Kentucky State Police photograph many of the crash scenes and the photos are stored in Frankfort. Obtaining the photos needed sometimes took more time than was available. Other times, it was difficult to find someone who could provide the information needed to do the local case study. Despite these challenges, a local case study was presented for the Grayson workshop. It is anticipated that an attempt will be made to continue this process for future workshops.

Another improvement to the workshop included making the detour maps for all the interstates and parkways in the state accessible via the Internet (www.ktc.uky.edu). This improvement would allow responders to replace or add maps to their Checklist as needed.

After all the workshops had been completed, the Technology Transfer (T²) section of the Kentucky Transportation Center was consulted about the workshop. T² has significant experience in workshop delivery since one of their primary functions is provide training to people who manage and maintain our highways. T² had the following suggestions to improve the workshop and make it more sustainable.

- Decrease the number of presentation slides and try to have fewer words on each slide.

Some of the slides could be combined with other slides or even removed from the presentation. Pictures should be added and long paragraphs should be made into bulleted lists, if possible.

- Add the trainers' biographies to the handout material in order to reduce the time that is spent on their introductions.
- Increase the number of interactive activities within the workshop. This could be as simple as posing more questions to the participants during the presentation. For instance, to review statistics in the local region, prepare a local version of the "Crash Clock" and ask attendees to guess how frequently various types of crashes occur.
- Increase the number of breaks given to the participants by providing two 10-minute breaks instead of one 15-minute break. This helps break up the material a little better and gives the participants more time to interact with one another.
- Simplify the scenario by reducing the equipment necessary for each breakout group. This could include making the scenario a tabletop exercise or producing a crash scene picture that could be used at each workshop (e.g. laminated picture).
- Pay the trainers for their time spent teaching the workshop. As more of these workshops are planned, it may become difficult to get emergency response personnel to teach the class. A small stipend per trainer for each workshop would encourage their continued participation.
- Consider charging the participants a nominal fee to attend the workshop. This would allow the necessary funding to provide refreshments at the meeting, and it would give KTC staff a better idea of how many to plan for when organizing the workshop.

3.0 REPRINT OF THE CHECKLIST

There were no changes made to the third printing of the Checklist. This reprint included 1,000 copies for the six additional workshops. Due to the large volume requested and because no corrections were made, the price of each Checklist dropped from \$20.40 to \$7.35 (this price does not include the color detour maps that are inserted in the back of the Checklist).

4.0 NATIONAL DISTRIBUTION

In order to share Kentucky's "successful practices" with regard to highway crash site management, a packet of information was sent nationally to the Departments of Transportation for the other 49 states. This packet included a Checklist with sample detour maps and a CD-Rom containing an electronic version of the Checklist, the workshop presentation including trainer material, a copy of KTC report "Improving Incident Management Response and Coordination of Resources" which explains the development of the Checklist and workshop, and an addendum memo to the KTC report describing the completed workshops.

Prior to this mailing, there were several requests for similar information from other states. Ohio, Indiana, and Oklahoma asked for the information to aid them in completing incident management projects similar to Kentucky's project.

In addition to the mailed distribution, this project gained national exposure during the year. The Checklist and workshop information were presented at the Rural Transportation Workshop sponsored by the Federal Highway Administration’s Southern Resource Center. This presentation was in Louisville, Kentucky in June 2002. This information was also presented at the Southeastern Local Roads Conference in Myrtle Beach, South Carolina in September 2002. The project received national exposure again as a finalist for the “Education and Training” award at the Intelligent Transportation Society of America’s (ITSA) Annual Meeting in Minneapolis, Minnesota in May 2003. The project was showcased at the ITSA Awards Ceremony using a 60 second video highlighting the workshop and Checklist. A longer version of this video was created and will be distributed to local response agencies in the future to encourage their participation in the workshop.

5.0 ADDITIONAL WORKSHOPS

There were six workshops presented during this fiscal year yielding a total of twelve workshops presented since the beginning of this project (refer to KTC report KTC-01-27/SPR199-98-1F “Improving Incident Management Response and Coordination of Resources” and addendum for information on prior workshops). The workshops began in August 2002 and concluded in February 2003. They were held in LaGrange (2), Elizabethtown, Grayson, Dawson Springs, and Mayfield. Figure 1 shows all the locations where a workshop has been held since the inception of this project. (The gray regions of the map indicate locations where a workshop was held prior to the 2002-03 fiscal year.) In the past year, 255 people from 32 counties have attended these workshops.

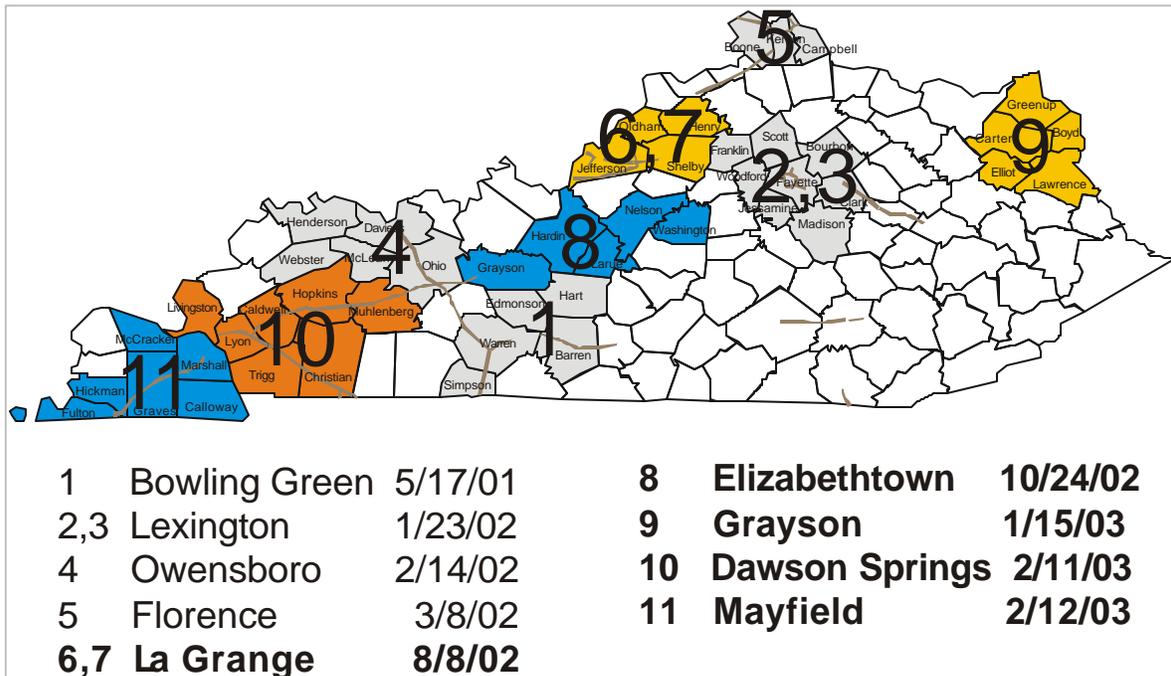


Figure 1. HCSM Workshop Locations

6.0 EVALUATION SURVEY

The evaluation survey was sent by mail to 374 people who had attended one of the twelve workshops. The survey is found in Appendix A and includes 17 questions covering the workshop and the Checklist. One hundred seventy-nine (179) people or about 48% returned the survey. The complete results of the survey are summarized in the paragraphs, figures, and tables below.

Questions one through four of the survey served to identify the type of person responding to the survey. Figure 2 shows the different types of agencies that responded to the survey. Eighty-three (83) percent of the respondents were represented by 5 different types of agencies. Law enforcement represented the highest percentage of respondents with 56 (31%) returned surveys, followed by the Kentucky Transportation Cabinet (KYTC) with 41 (22%), fire and rescue with 27 (15%), emergency management with 15 (8%), and towing companies with 11 (6%). People representing dispatch, government, and emergency medical services made up 9% of the respondents. Those marking “other” on the survey made up 9% of the respondents.

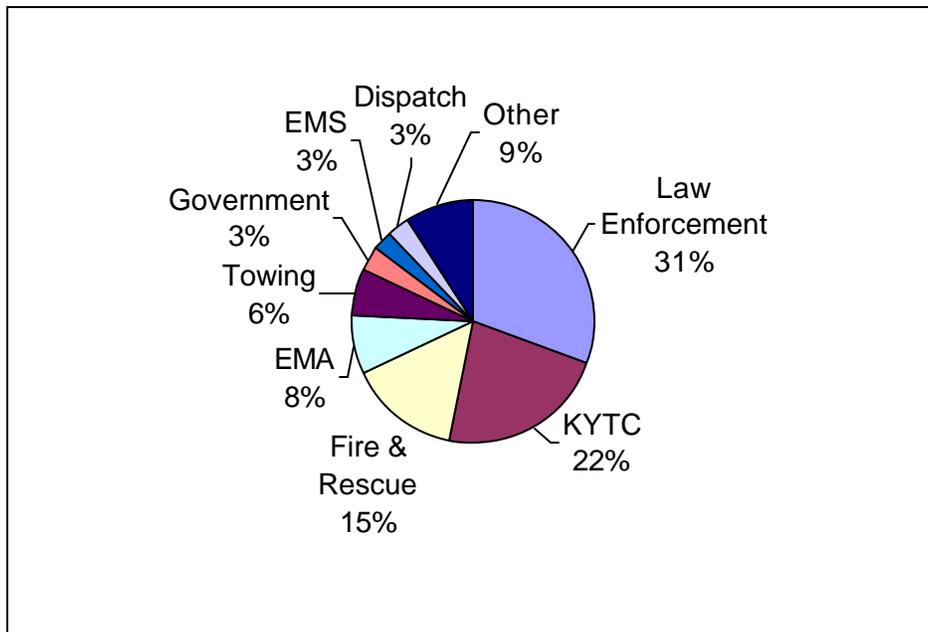


Figure 2. Survey Respondents by Type of Agency

Figures 3 and 4 show the type of work performed with regard to highway crash site management and the years of experience for the survey respondents, respectively. The overwhelming majority (68%) of those responding to the survey have jobs that involve on-scene management at a highway crash scene, and more than 50% of the respondents have 15 or more years of experience with crash scene management.

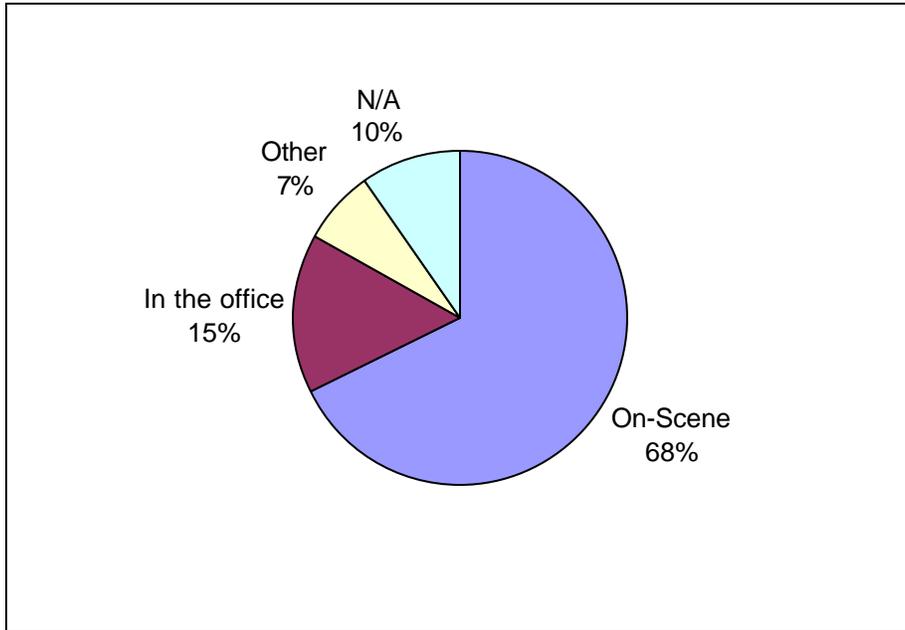


Figure 3. Survey Respondents by Type of Work Performed

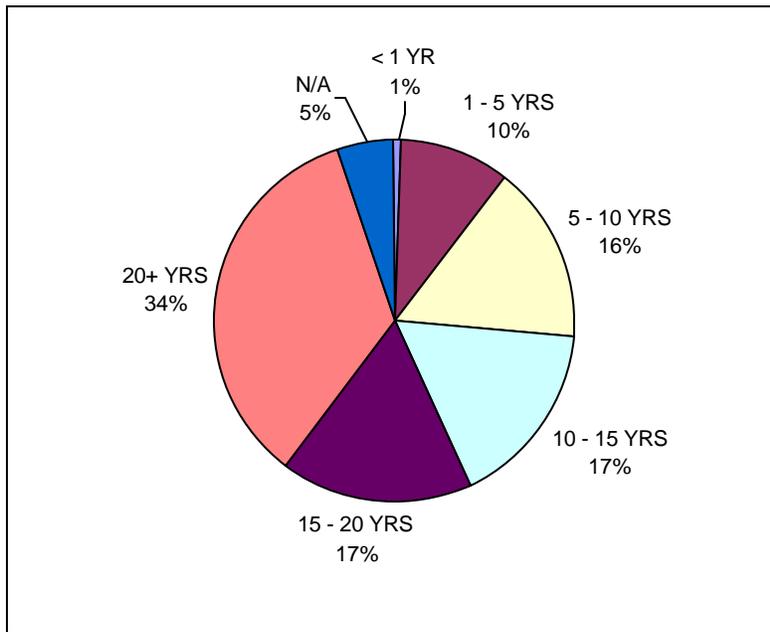


Figure 4. Survey Respondents by Work Experience

Figure 5 shows the percentage of people responding from each of the workshop locations. The locations with the highest numbers of respondents were Florence and Mayfield, both with 14%. Next were LaGrange and Elizabethtown, both with 13%.

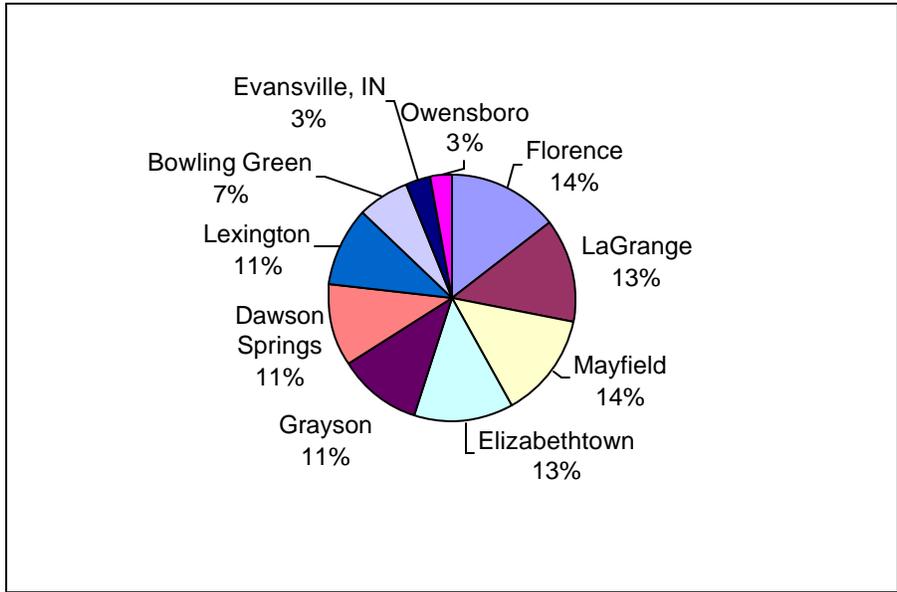


Figure 5. Survey Respondents by Workshop Location

Questions five and six of the survey dealt with interagency coordination. The majority of respondents rated interagency coordination as either a 3 or 4 on a scale of 1 (needs improvement) to 5 (great job). The mean rating for all responding to the survey was 3.45 for interagency coordination. Figure 6 shows the overall interagency coordination rating by the respondents. When separating the responses by workshop location, Owensboro respondents rated their area as having the best interagency coordination with an average of 4.25 out of 5. All the interagency coordination ratings by location are shown in Figure 7.

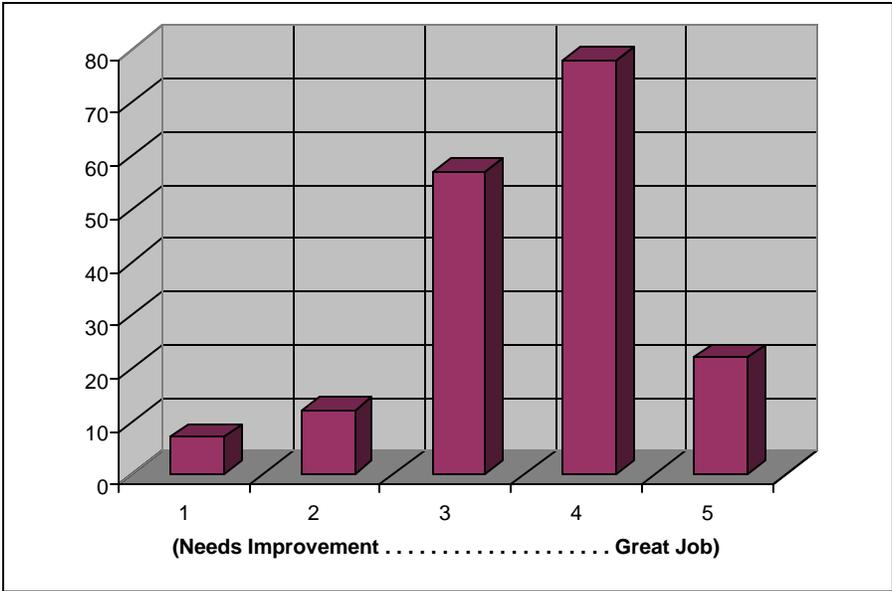


Figure 6. Overall Rating for Interagency Coordination

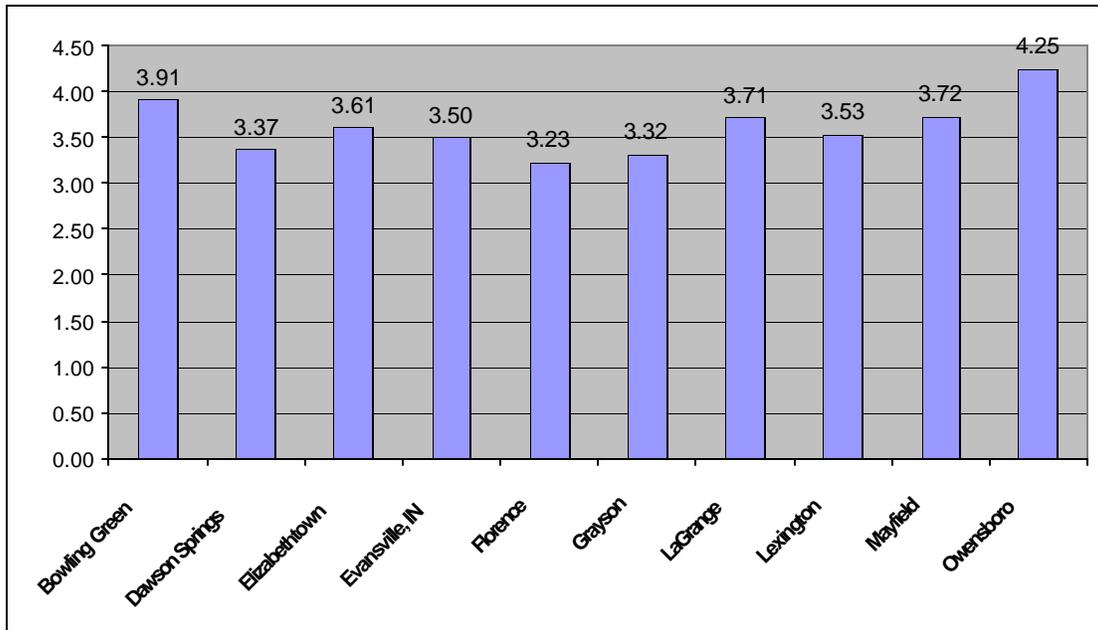


Figure 7. Rating for Interagency Coordination by Workshop Location

As shown in Figure 8, 55% of respondents believe interagency coordination has improved since the workshop. Several people responded that communications among local agencies had improved and agencies were working together better since the workshop.

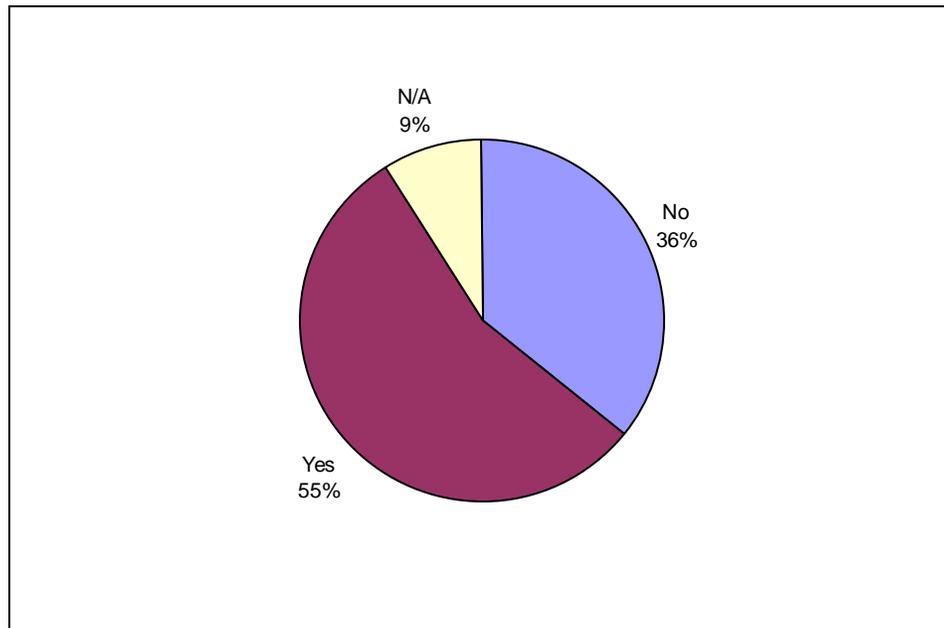


Figure 8. Has Interagency Coordination Improved Since the Workshop?

Question seven of the survey asked if it would be beneficial to repeat the workshop in the responder's local area. As seen in Figure 9, an overwhelming 87% of respondents believed it would be beneficial to repeat the course. Figure 10 shows the breakdown by workshop location.

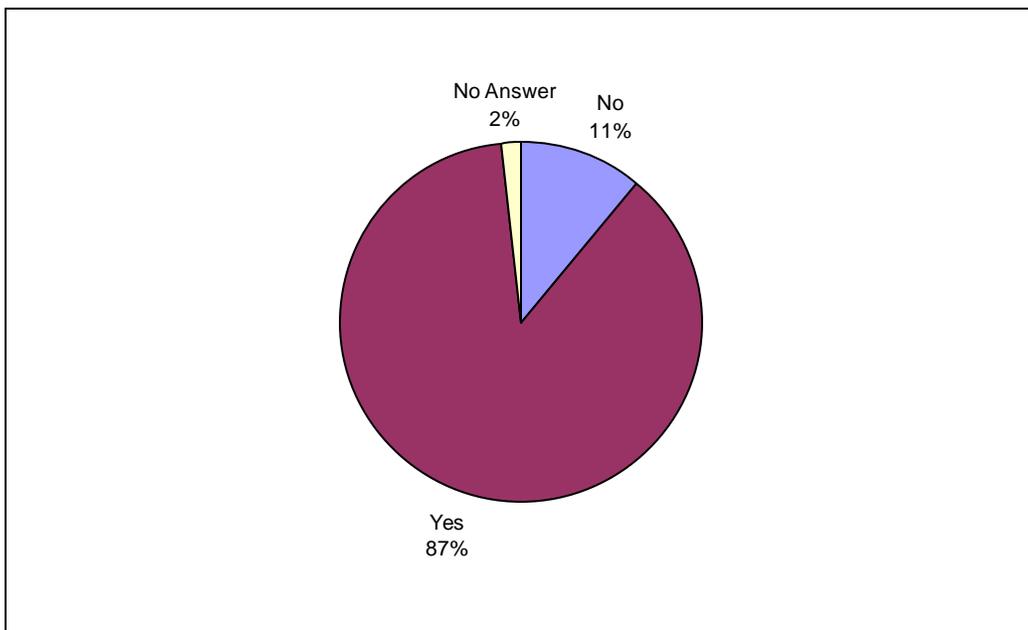


Figure 9. Would it be Beneficial to Repeat the Workshop?

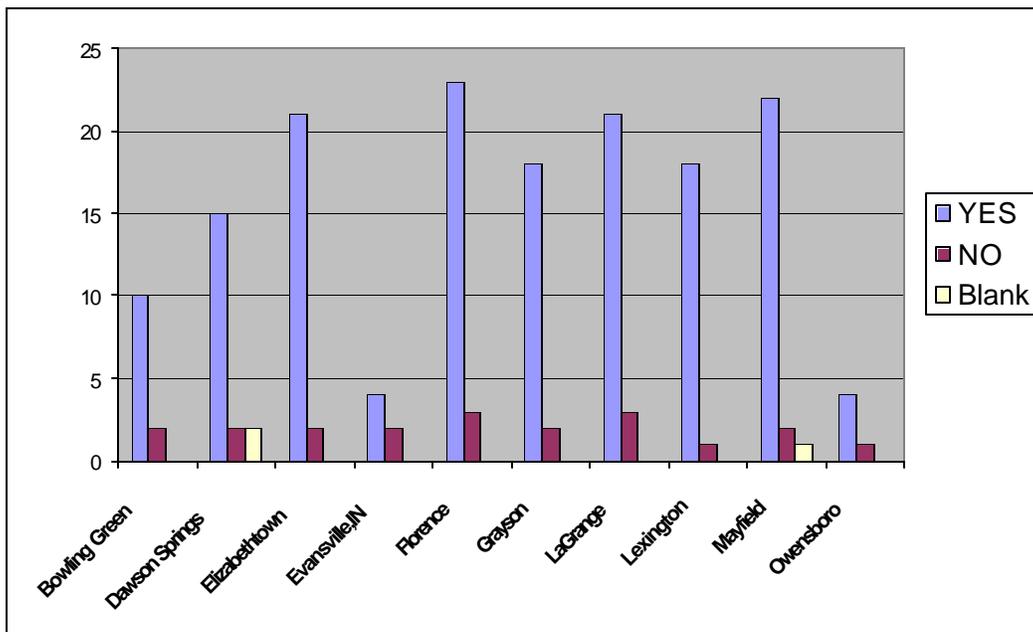


Figure 10. Would it be Beneficial to Repeat the Workshop? (By Location)

Question eight of the survey asked if the respondent would be interested in becoming a trainer for the workshop. Twenty-nine (29) people representing six different disciplines (law enforcement, fire and rescue, EMS, emergency management, towing, and the KYTC) expressed interest in becoming a trainer for the course. A list of those people is below in Table 1.

<i>Name</i>		<i>Agency</i>	<i>Name</i>		<i>Agency</i>
1	Homer Druin	Kentucky Emergency Management	14	Bary Lusby	Kenton Co. Homeland Security/EMA
2	Scott Burrows	Burrows Garage, Inc.	15	Robert A. Osbourne	Washington Co. Sheriff's Dept.
3	Kevin Collett	LaGrange Police Dept.	16	Bill Matlock	Paducah Police Dept.
4	Tim Vaughn	Nortonville Police Dept.	17	Duane Hawes	Marshall Co. Emergency Management
5	Sgt. Brian Zurborg	Edgewood Police Dept.	18	Todd Kelley	Ashland Police Dept.
6	Jim Williams	Medical Center EMS	19	Nick Schade	Tony's Wrecker Service
7	Donald Woods	Kentucky State Police	20	Dave Lillich	Erlanger Police Dept.
8	Tim Mahone	Henderson Ambulance Service Methodist Hospital	21	Kevin Jackson	Hardin-South Marshall Co. Volunteer Fire Dept.
9	William Armstrong	Campbell Co. Police Dept.	22	Steve Pedigo	Higdon's Service Center
10	Daniel Castle	Winchester Fire/EMS	23	Jere E. Hughes	Fulton Police Dept.
11	William B. Fulkerson	KYTC (Highway Maintenance)	24	Donald Ellis Jr.	Ellis Towing and Recovery
12	Jason H. Key	Princeton Police Dept.	25	Tom Webster	Tow America Inc.
13	Mark A. Little	Fayette Co. Sheriff's Office	26	Don Sammons	Raceland Police Dept.

Table 1. List of People with Interest in Becoming a Trainer

Questions nine and ten of the survey dealt with the use of the Checklist. First, the responders were asked to designate how they are using the Checklist. Figure 11 shows the breakdown of the use of the Checklist. Forty-three (43) percent are using the Checklist as resource or reference material and 24% are using it as a training tool. Eighteen (18) percent have not used the Checklist and 14% are using it for crash site management. There were a couple of other uses for the Checklist listed by respondents, including “local coordination” and “weather spotter”.

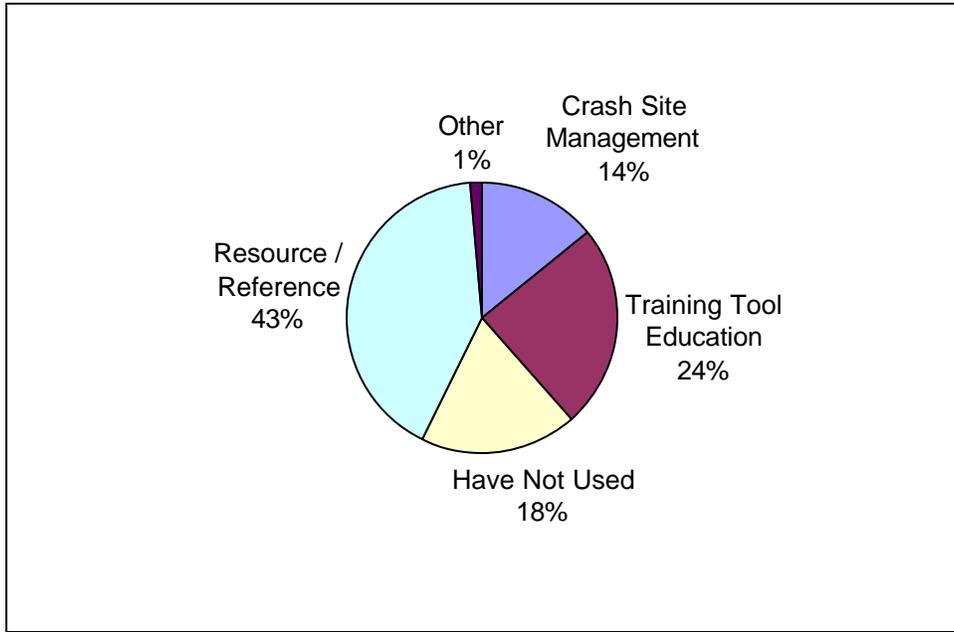


Figure 11. Breakdown of Use of the Checklist

There were 34 respondents (14%) that replied they were using the Checklist for crash site management. Figure 12 shows the years of experience associated with those respondents. The majority of the respondents using the Checklist for site management have 20+ years. Respondents with less than 5 years experience are not using the Checklist for site management.

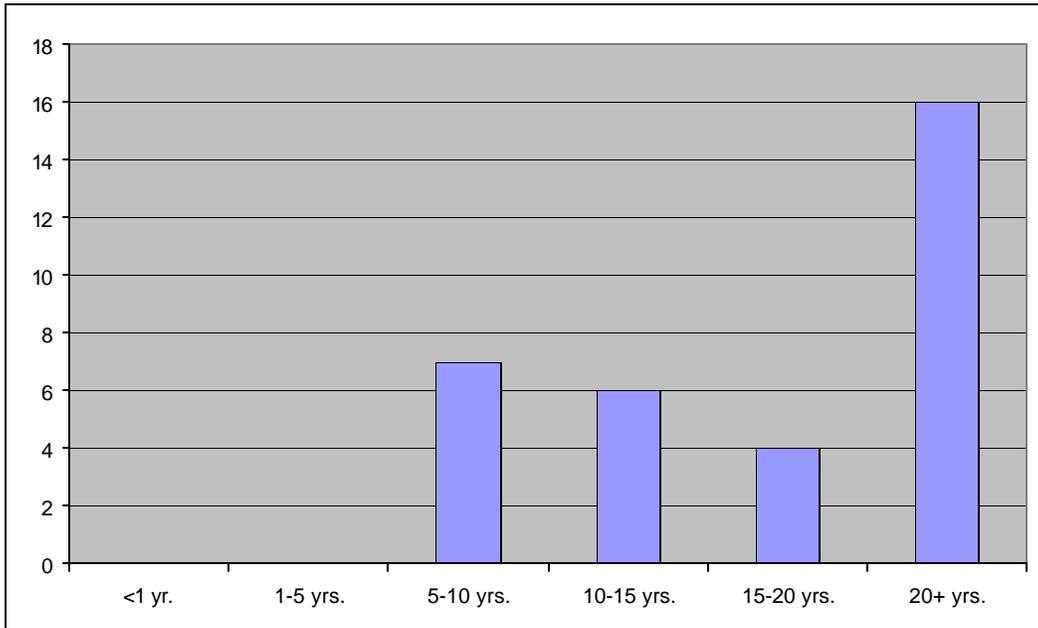


Figure 12. Using the Checklist for Crash Site Management (By Years of Experience)

Next, responders were asked to rank the frequency of use of the Checklist on a scale of 1 (never) to 5 (every crash). Ninety percent (90%) of the responders chose a value of 1, 2, or 3 with a mean value of 2.29 for all responding to the survey. Figure 13 shows how the Checklist was rated in terms of its frequency of use.

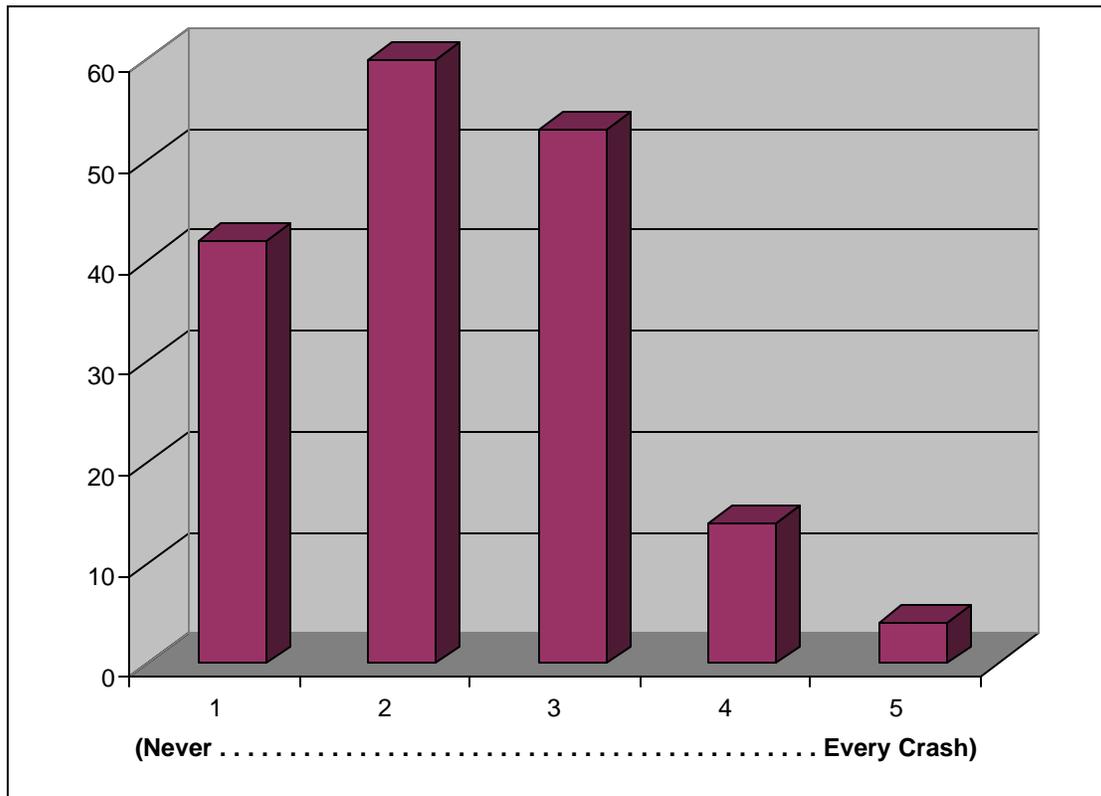


Figure 13. Rating the Checklist by Frequency of Use

For question eleven of the survey, responders were asked to rank (on a scale of 1 “not beneficial” to 5 “very beneficial”) the following components of the Checklist: reminder of your own agency roles, phone numbers, reminder of other agency roles, detour maps, and notes pages. The mean ranking for each of the components is shown in Table 2. The phone numbers component had the highest mean value (4.172) while the notes pages component had the lowest mean value (3.444). All the components of the Checklist had a mean rating above 3.

Component of the Checklist	Mean Rating
Reminder of your own agency roles	3.509
Phone numbers	4.172
Reminder of other agency roles	3.817
Detour Maps	3.671
Notes Pages	3.444

Table 2. Mean Ranking for Components of the Checklist

Question twelve asked if any of the sections within the Checklist could be omitted. Only seven people commented that something should be removed. Those comments included removing: all the sections; all the sections, but the KVE and notes pages; the emergency management page; the introduction pages; and the notes pages.

Question thirteen asked if anything should be added to the Checklist. One hundred sixty-one (161) people out of 179, or about 90%, left this question blank or responded that nothing should be added. Of the 18 people that did have a suggested addition, 5 comments dealt with providing additional phone numbers for the region. Some of the other comments included adding a hazardous material placard sheet, more detour maps, and a media page for notification of the public.

Questions fourteen and fifteen dealt with the physical aspects of the Checklist, including its durability and the use of the wet-erase pen. None of the respondents commented that the Checklist was not durable, and about 41% of the respondents said they have used the wet-erase pen to make notes in the Checklist.

Questions sixteen and seventeen addressed the overall objective of the workshop and Checklist: to improve safety and reduce traveler delay. First, respondents were asked if they thought safety had been improved for themselves or others because of the workshop and/or Checklist. As Figure 14 depicts, 57% percent thought safety had been improved and another 37% were not sure if it had been improved. Only 6% responded that safety had not been improved. William Beeker, from the Highland Volunteer Fire Department, stated that the information had “prevented one of (their) personnel from being hit (by a vehicle) on the Pennyrile (Parkway)”.

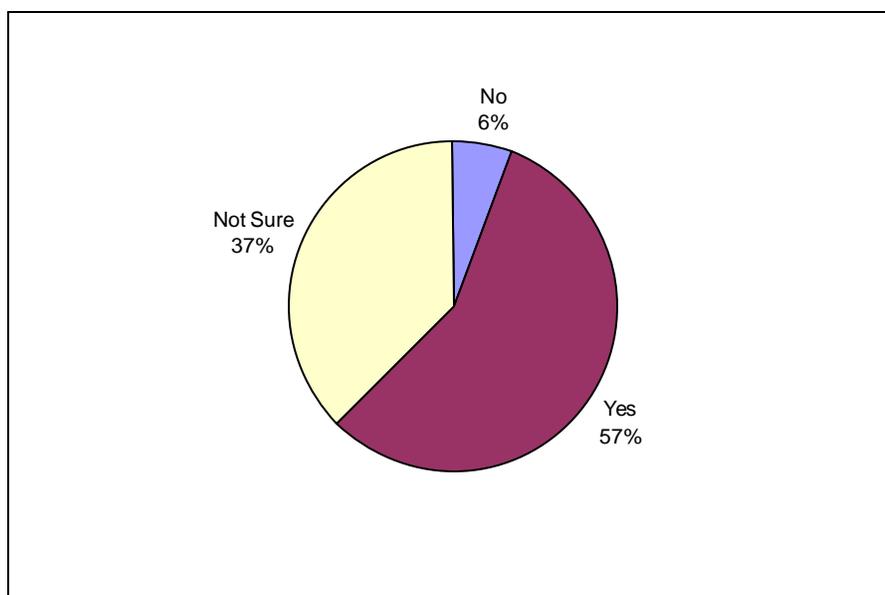


Figure 14. Has Safety Been Improved?

Next, responders were asked if they thought time spent on-scene had been reduced for themselves or for others as a result of the workshop and/or Checklist. As shown in Figure 15, 47% thought time on-scene had been reduced, 36% were not sure if time had been reduced, and 17% did not think time had been reduced.

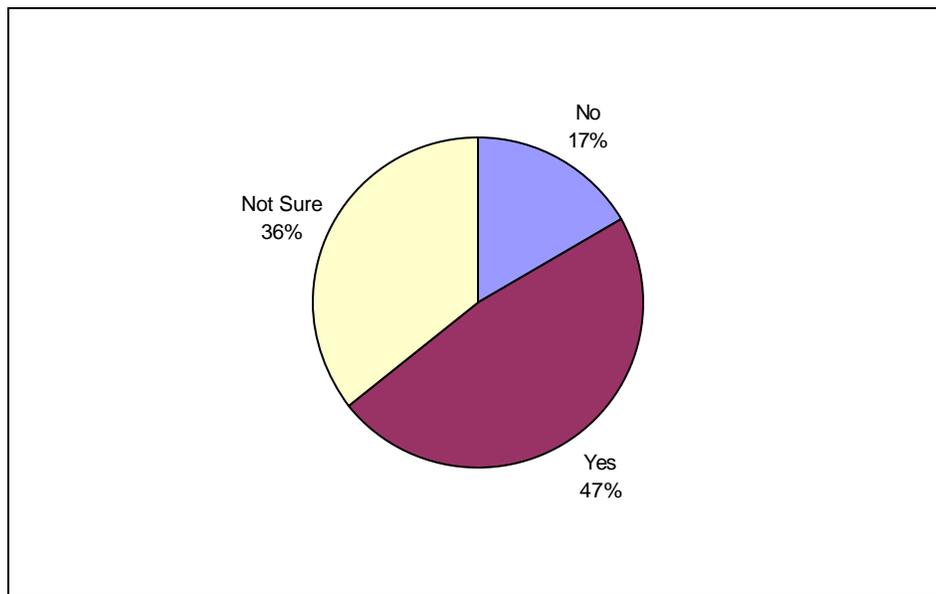


Figure 15. Has Time On-Scene Been Reduced?

The survey also allowed responders to provide miscellaneous comments about the workshop and/or Checklist. Nineteen of the 53 people that provided additional comments had positive feedback concerning the material itself or the outcome since the workshop. Eleven of the comments dealt with problems that are still an issue in their area. Seven people submitted comments on ways to improve the workshop. Four of those seven dealt with updating or expanding the detour maps. Other comments related to improving the workshop dealt with inviting county superintendents instead of engineers from the road department, using more hands-on activities like the scenario, and decreasing emphasis on continuous traffic flow. Seven people made comments related to having more workshops in their area. Those people attended workshops in the following areas: Lexington (3 people), LaGrange (2 people), Bowling Green (1 person), and Grayson (1 person). Five comments suggested that further outreach of the workshop was needed, including teaching the class at the State Fire School and the Kentucky State Police Academy. Other comments received were only informative in nature and did not specifically deal with the workshop and/or Checklist.

7.0 RECOMMENDATIONS

The following actions are recommended for the Highway Crash Site Management program.

1. The Highway Crash Site Management workshops should continue to be held and the Checklist should continue to be distributed. This program is well received by emergency response personnel and appears to be having some impact on crash site management.
2. Primary emphasis should be placed on conducting workshops in areas that have not received the training, such as Eastern and Southeastern Kentucky. Areas in which a repeat workshop may be beneficial include the Lexington region (particularly the counties surrounding Fayette County), Florence, Bowling Green, and Louisville.
3. The basic content of the workshop should remain unchanged, however periodic updates should continue to be made to the material. Individual comments within the evaluation survey should be considered prior to beginning the next set of workshops.
4. The Checklist should be reprinted and distributed as requested. No changes should be made to the Checklist at this time.
5. The Central Office should encourage the District Offices to attend and actively participate in the local Highway Crash Site Management workshops. The District Offices should also be encouraged to review detour maps and provide corrections or additions as necessary.
6. A fee should be considered for the participants attending the workshops and for additional Checklists that are requested.
7. The changes suggested by T² that focus on improving the workshop and making it more sustainable should be considered by KYTC prior to doing more workshops.
8. Management and organization of these workshops, as well as distribution of the Checklist, should gradually be turned over to T² within the next fiscal year.
9. Individuals identified in the evaluation survey that are willing to participate in the workshop as a trainer should be recruited. These individuals should be considered for workshops in their local area or as needed.

Appendix A

Evaluation Survey Form

Highway Crash Site Management Survey

11. On a scale of 1 to 5, rank the benefits of the following components of the Checklist. (circle response)

	(not beneficial) → (very beneficial)				
	1	2	3	4	5
Reminder of your own agency roles	1	2	3	4	5
Phone numbers	1	2	3	4	5
Reminder of other agency roles	1	2	3	4	5
Detour maps	1	2	3	4	5
Notes Pages	1	2	3	4	5

12. Are there parts of the Checklist that could be omitted? (check all that apply)

<input type="checkbox"/> Introductory pages	<input type="checkbox"/> Initial Response page	<input type="checkbox"/> Law Enforcement page
<input type="checkbox"/> Fire and Rescue page	<input type="checkbox"/> EMS page	<input type="checkbox"/> KYTC page
<input type="checkbox"/> KVE page	<input type="checkbox"/> Emergency Management page	<input type="checkbox"/> Towing page
<input type="checkbox"/> Notes pages	<input type="checkbox"/> Phone numbers	<input type="checkbox"/> Detour maps
<input type="checkbox"/> Other _____	<input type="checkbox"/> Do not omit anything	

13. Are there other things that should be included in the Checklist that are not?

14. Has the Checklist been durable (i.e. remained in good condition with use)? Yes No
If no, describe the problem _____

15. Have you used the wet-erase pen to make notes in the Checklist? Yes No

16. From your personal experience, do you feel that safety has been improved for yourself or others while working a crash scene because of this workshop and/or Checklist?
 Yes No Not sure

17. From your personal experience, do you feel that the time spent on-scene for yourself or others has been reduced because of this workshop and/or Checklist?
 Yes No Not sure

Additional Comments:

Optional Information:

Name: _____
Agency: _____
Address: _____
Phone Number: _____
Email: _____

Return to: Monica Barrett, Kentucky Transportation Center, 176 Raymond Bldg., Lexington, KY 40506-0281 Fax (859) 257-1815